

VINKA EBIKE Display User Manual DC33



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Product introduction

1.Product name and model

Product name: Electric power bicycle TFT color screen instrument

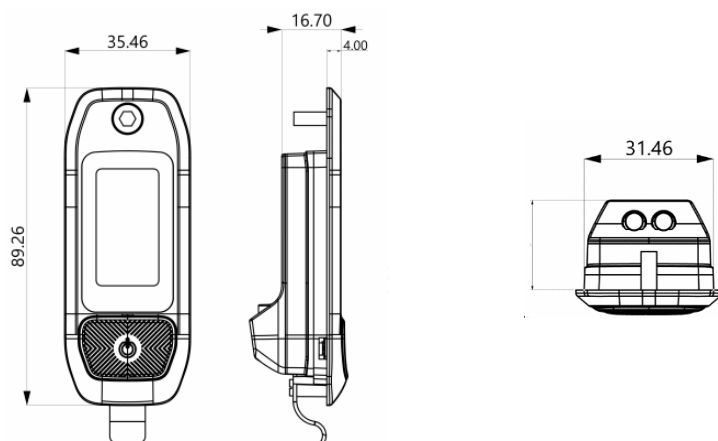
Model: DC33

2.Specifications

- Supports 36V/48V voltage system
- Rated working current :20mA
- Off-state leakage current: <1 μ A
- Operating temperature: -20 $^{\circ}$ C ~ 60 $^{\circ}$ C
- Storage temperature: -30 $^{\circ}$ C ~ 80 $^{\circ}$ C
- Protection level: IP67

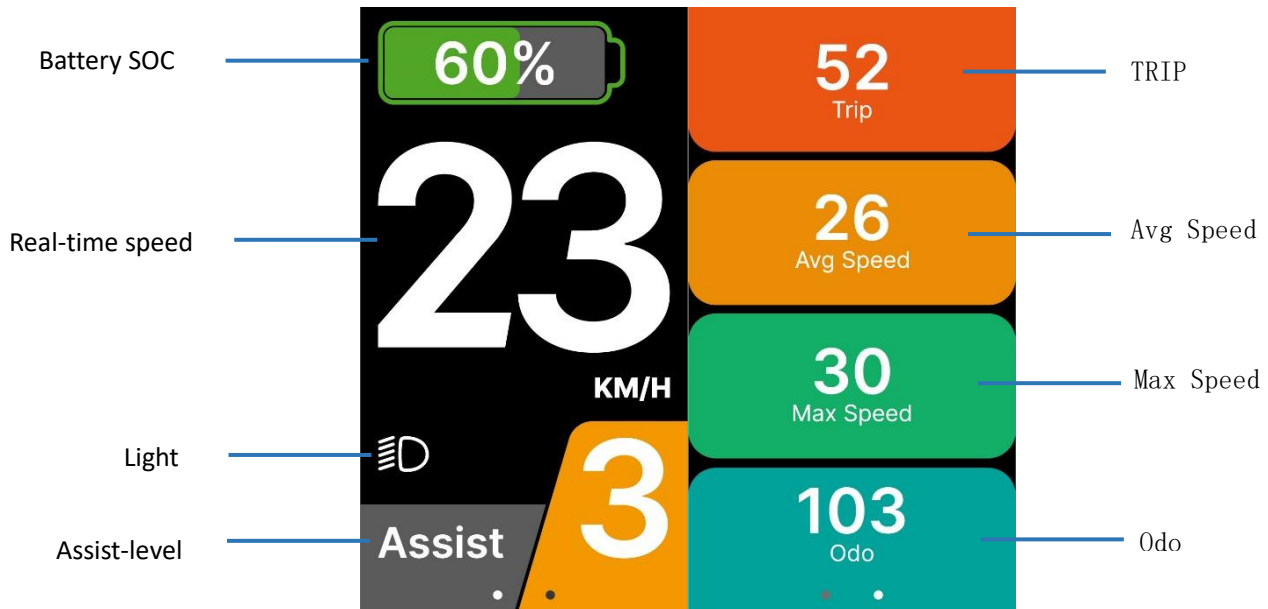
3.Appearance and Size

Product appearance and dimensional drawing (unit: mm)



Function Summary And Key Definition

1.Function Area Distribution



2.Function Summary

DC33 display has many functions to meet the user's needs.

- Intelligent battery SOC display, real-time power display
- Assist level adjustment and indication
- Motor power display
- Real-time Speed, cadence, total mileage (ODO), single mileage (TRIP), maximum Speed (MAX Speed), average speed (AVG Speed) display
- Switching between metric and imperial units is supported
- Backlight brightness Settings and display
- Push speed setting and display
- The fault code is displayed
- Other parameter setting and display (e.g., wheel diameter, speed limit, etc.)
- Bluetooth is standard (only OTA upgrade is supported), USB is not supported

3.Key definition

The DC33 instrument has a total of 5 keys, which are composed of the instrument's own keys and external keys.

The instrument comes with buttons: power button (can only trigger the switch function);

External keys: power key, plus key/headlight key "+", minus key/push key "-" and function key "M". In the manual, we use the power key, the "+" key, the "-" key, and the "M" key to represent these four keys.



General Operation

1. Switch ON/OFF

To switch on the E-bike system and provide the power supply to the controller, hold the power key for 1s.

To switch off E-bike system, hold the power key for 1s. The E-bike system no longer uses the battery power.

When E-bike system is switched off, the leakage current is less than 1 μ A.

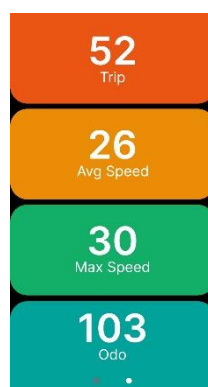
- ◆ If the instrument is operated without keys for more than 15 minutes,
 - ◆ and the motor has no power output (≤ 1.0 A) for more than 15 minutes,
 - ◆ and the speed is maintained at 0 km/h for more than 15 minutes,
- the instrument will automatically shut down.

2. Display Interface

When the e-bike system is turned on, the display will default to the main interface I: current speed, gear and battery level. Press the Power button to switch the main screen II: Trip, Avg Speed, Max Speed, and Odo.



main interface I



main interface II

Function Display Interface

3. Push-assist Mode

After short press the "M" key, press the "-" key within 3 seconds and keep it pressed, the instrument activates the push assist function. When the instrument screen displays the  sign, the E-bike starts at the set speed (without special setting, the E-bike starts at the standard speed of 6km/h).

Release the "-" key, or press other keys at the same time, the push assist function is immediately turned off, and the E-bike returns to the state before using the push assist function.



Push-assistance Interface

- ◆ Push-assist function may only be used when pushing the E-bike. Be aware of danger of injury when bike wheels do not have ground contact while using the push-assist function.

4. Switching Lighting

Long press the "+" key for more than 1 second to turn on the headlights. The instrument interface displays the headlight icon, and the instrument backlight brightness is automatically reduced by 50%; Long press the "+" key again for more than 1 second, the headlights of the E-bike will be turned off, the headlight icon of the instrument interface will disappear, and the backlight brightness of the instrument screen will restore the set value.



Switching the Lighting Interface

5. Assist Level Interface

Short press the "+/-" button to switch the electric vehicle booster gear and change the motor output power. The default output power range of the instrument is 0-5 gear, 0 gear is the stop power output, and 5 gear is the maximum output power.



Assist Level Interface

6. Battery Display

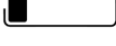
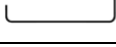
The five-segment indicate of battery SOC, when the battery voltage is high, the five-segment LCD is all on. When the percentage is 0, the battery needs to be charged immediately.



Battery Interface

The default voltage of display battery is 36V. The segmented voltage values are 30.5V-32.5V-34.35V-36.03V-37.48V-39.46V.

The percentage of remaining battery power and the corresponding battery power ICONS are displayed as follows:

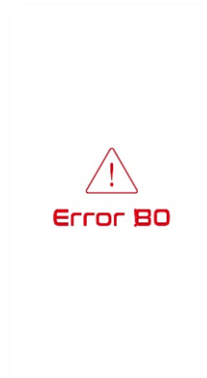
Battery percentage	Battery bar indicator	Detailed introduction
$80\% \leq \text{SOC}$		Show Full grids (5 grids)
$60\% \leq \text{SOC} < 80\%$		Show 4 grids
$40\% \leq \text{SOC} < 60\%$		Show 3 grids
$20\% \leq \text{SOC} < 40\%$		Show 2 grids
$10\% \leq \text{SOC} < 20\%$		Show 1 grids
$2\% \leq \text{SOC} < 10\%$		Show 0 grids
$0\% \leq \text{SOC} < 2\%$		Show 0 grid, and the battery symbol flashes at a frequency of 1HZ as a whole

7. Error Code Indication

The components of the E-bike system are continuously and automatically monitored.

When an error is detected, the respective error code is indicated in text indication area.

Refer to detailed definition of the error codes in Attached list 1.

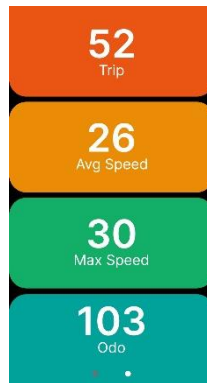


Error Code Indication

- ◆ Have the display inspected and repaired when an error code appears. Or else, you will not be able to ride the bike normally. Please always refer to an authorized bicycle dealer.

8. TRIP Clear Function

On the TRIP display page, press the "+" key and "-" key for more than 1 second at the same time, the TRIP value will be cleared to zero, and the corresponding MAX and AVG value will also return to zero.



Trip Clear Indication

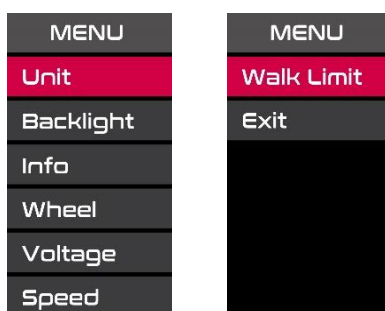
General Settings

1.Setting interface

Press the power key to switch on the display.

When the meter is powered on and powered on normally, hold down the “M” button and the “-” button at the same time and hold down for more than 1 second to enter the user configuration mode.

- ◆ All the settings are implemented on a parked bike of no speed.



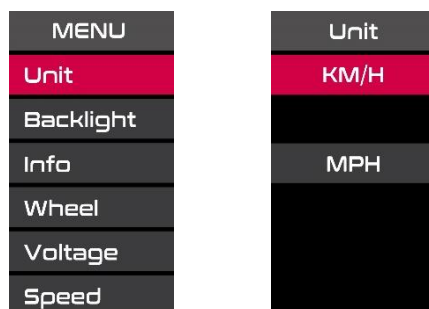
Setting interface

2. Unit Setting

Unit Indicates the Unit Type setting of the meter. Press the "+/-" key to select Unit and press the power key to enter the setting. The range can be Metric (km/h) or Imperial (mph).

Press and hold down the "M" key to save the configuration parameters and return to the upper-level configuration screen. Press and hold down the "M" key again or press "+/-" to select "Exit" to return to the home screen.

Note: Default unit type read controller display.



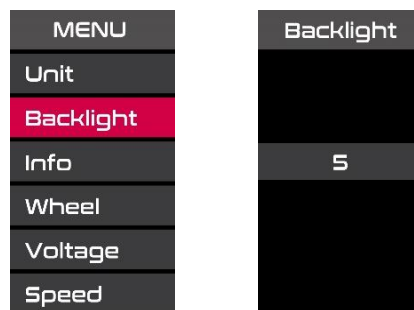
Unit Setting

3. Backlight Setting

Backlight indicates the backlight Brightness Level of the instrument. Press the "+/-" key to select Backlight and press the "M" key to enter the setting. The setting range is from Level 1 to Level 5. Level 1 is darkest and Level 5 is brightest.

Press and hold down the "M" key to save the configuration parameters and return to the upper-level configuration screen. Press and hold down the "M" key again or press "+/-" key to select "Exit" to return to the home screen.

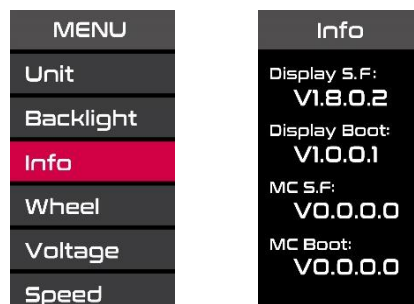
Note: The default backlight brightness level reads the controller display.



LCD Brightness Setting

4. Information

Info Indicates that the information is displayed. Press "+/-" to select Info, and press "M" to enter the Settings. You can select the instrument software version number (Display S.F) and instrument BOOT version number (Display Boot). Controller software version (MC S.F) and controller BOOT version (MC Boot). Hold down "M" to return to the previous configuration screen. Hold down "M" again or press "+/-" to select "Exit" to return to the home screen.



Info

5. Wheel Size

Wheel indicates the Wheel Size of the vehicle. Press the "+/-" key to select wheel size. The wheel size information can only be viewed but not edited. Hold down the " M " button or press the "+/-" key to select "Exit" to return to the home screen.

Note: The default wheel diameter value reads the controller display, can view the range: 16-18-20-22-24-26-700C/27.5-28-29

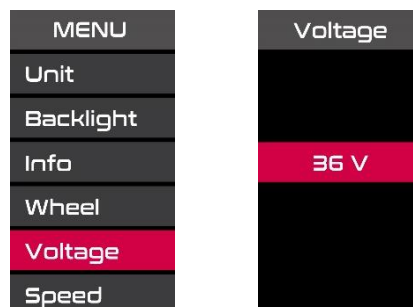


Wheel Size

6. Voltage setting

Voltage Indicates the Voltage type of the vehicle. Press the "+/-" key to select Voltage. The voltage type information can only be viewed but not edited. Hold down the " M " key or press the "+/-" key to select "Exit" to return to the home screen.

Note: The default voltage reading controller display, can view the range: 36V/48V.



Voltage

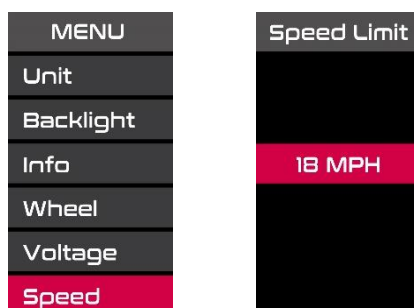
7. Speed Limitation

Speed indicates the Speed limitation Settings of the E-bike. Press the "+/-" key to select speed limitation, the information of the E-bike Speed limitation can only be viewed but not edited.

Hold down the "M" key or press the "+/-" key to select "Exit" to return to the home screen.

Note: The default speed limit value reads the controller display, can be viewed:

metric: 5-46 km/h, Imperial: 3-29 mph



Speed Limit Setting

8. Walk Speed

Walk Limit indicates the push assist mode. Press the "+/-" key to select Walk Limit and press the "M" key to enter the setting. The setting range of the walk speed is 3-6km/h. 3km/h is the minimum walk speed, 6km/h is the maximum walk speed.

Press and hold down the "M" key to save the configuration parameters and return to the upper-level configuration screen. Press and hold down the "M" key again or press "+/-" key to select "Exit" to return to the home screen.

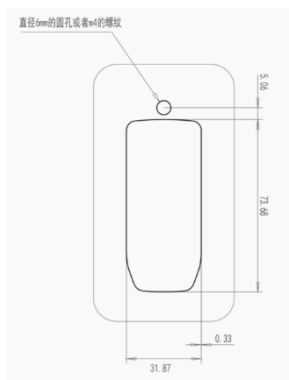
Note: The default boost speed reads the controller display.



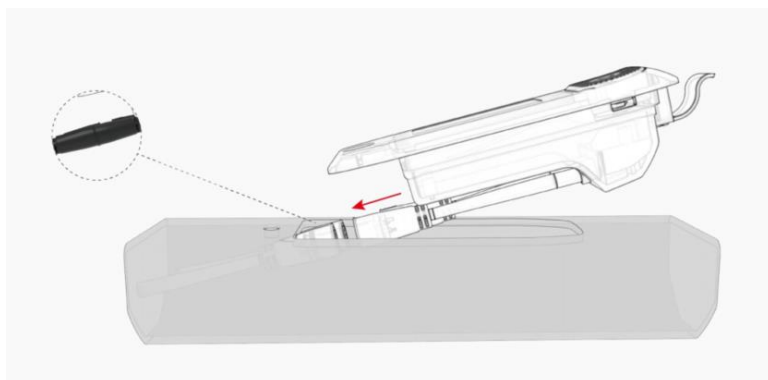
Walk Limit Setting

Installation

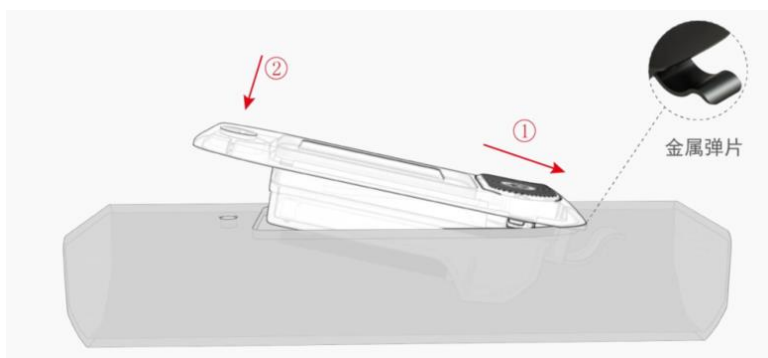
1. Open the hole on the car tube according to the following figure:



2. Connect the terminal of the instrument to the terminal of the controller in the car tube, and arrange the cable into the upper tube of the car frame.

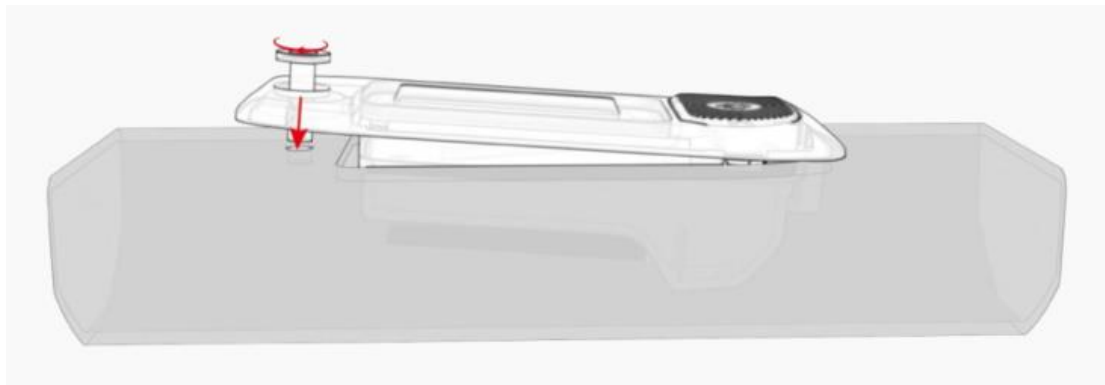


3. Insert one end with metal shrapnel diagonally downward into the frame pipe fitting opening. Press down on the meter.



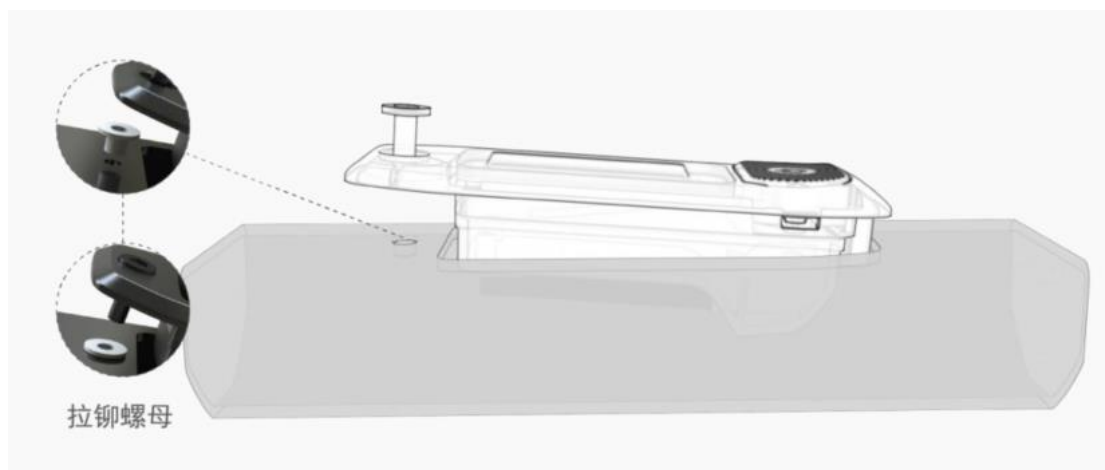
4. the other end of the instrument is placed down, so that the instrument screw is aligned with the threaded hole of the frame and locked clockwise.

Installation torque 1.3Nm

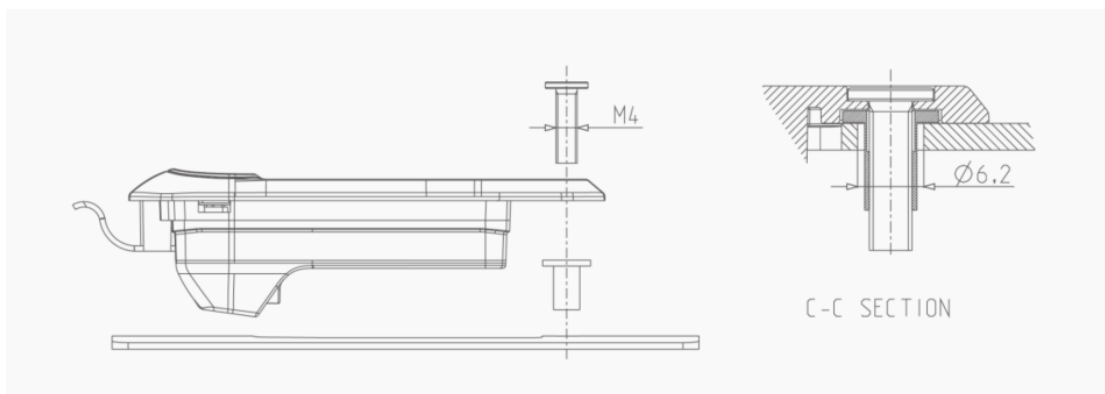


Note: The following are two kinds of pipe processing methods, please choose one according to the conditions of the pipe

- ① Open a hole in the upper tube and install a rivet nut, and then align the screw with the nut and lock it. As shown in the picture below:



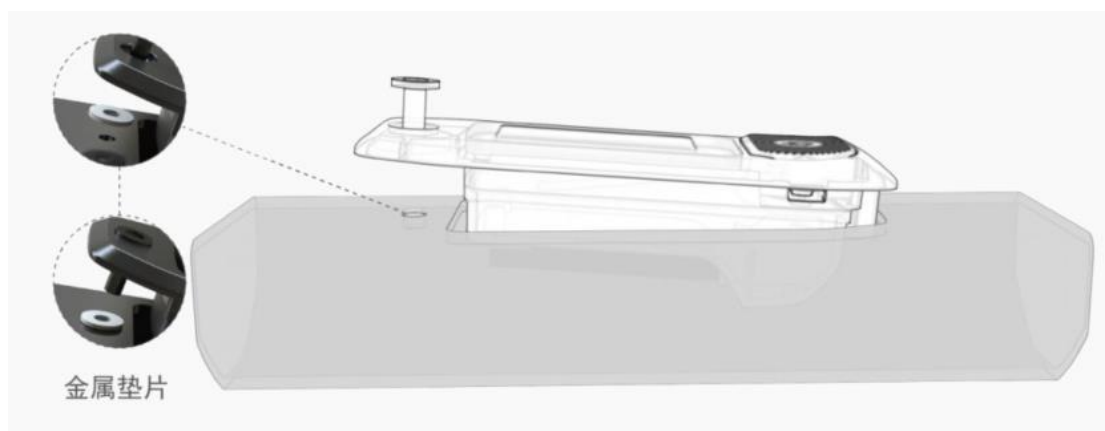
Installation diagram



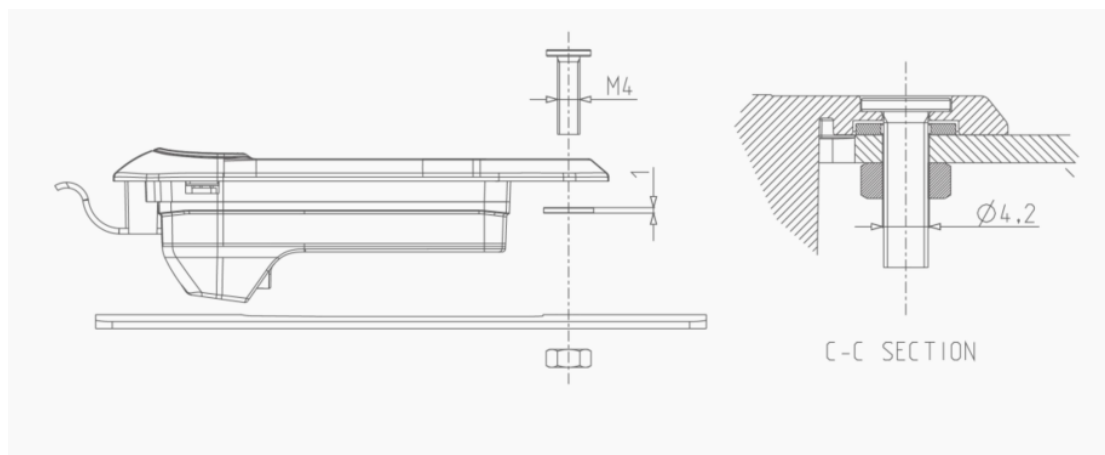
Structural anatomy map

- ② Open a hole in the upper tube and tap, then pad a 1mm thick metal gasket between the instrument and the upper tube, and lock it with screws.

As shown in the picture below:



Installation diagram



Structural anatomy map



Installation completion diagram

Quality assurance and warranty scope

I Warranty

- 1) The warranty will be valid only for products used in normal usage and conditions.
- 2) The warranty is valid for 24 months after the shipment or delivery to the customer.

II Others

The following cases do not belong to warranty scope:

- 1) The display is demolished.
- 2) The damage of the display is caused by wrong installation or operation.
- 3) The shell of the display is broken after the display is out of the factory.
- 4) The cable of the display is broken.
- 5) Beyond warranty period.
- 6) The fault or damage of the display is caused by the force majeure (e.g., fire, earthquake, etc.)

Warnings:

1. Use the display with caution. Don't attempt to release or link the connector when battery is power on.
2. Try to avoid hitting the display.
3. Don't modify system parameters to avoid parameter disorder.
4. Make the display repaired when error code appears.

■ *This manual instruction is a universal version for VINKA DC33 display. Software specific, versions of this display may be different. Please always refer to an actual version.*

Attached list 1: Error code definition

Error code	Definition
90	Torque Zero Error
11	Torque Out Range
92	Torque Sensor Fault
13	Gear Sensor Error
15	Speed Sensor Error
18	Cadence Error
20	PCB Over-Temp Warning
A1	PCB Over-Temp Error
22	PCB Sensor Fault
25	Motor Over-Temp Warning
A6	Motor Over-Temp Error
A7	Flash Error
80	Communication Lost
32	LORA Communication Lost
01	Communication CRC Error
40	Motor EST Error
41	Motor Over-Peak Current
C2	Motor Loss Phase
43	Motor Over DC Current
D0	Battery Over Voltage
51	Battery Low Voltage
52	Battery Over Current
E0	Battery Version Error
E5	Display Version Error



苏州万佳电器有限公司
Suzhou Wanjia Electric Co.,Ltd.

Date	Version	Content	Personnel	Remark
20245-02-15	V1.0	Initial creation	MAY	